

SEP 18 1928

MILBANK MEMORIAL FUND
QUARTERLY BULLETIN
NEW YORK HEALTH DEMONSTRATIONS

VOL. VI

JULY 1928

No. 3

SIR ARTHUR NEWSHOLME REVISITS
THE NEW YORK HEALTH DEMONSTRATIONS



SIR Arthur Newsholme, M.D., formerly principal medical officer of the Local Government Board of England and Wales, made a tour of inspection of the New York Health Demonstrations in May. It was his second such survey of the public health activities in Cattaraugus County and in Syracuse, his former visit having been made in the summer of 1926. It was his first review of the work in the Bellevue-Yorkville Health Demonstration in

the Borough of Manhattan of the City of New York.

Sir Arthur is a member of the Advisory Council of the Milbank Memorial Fund. His earlier appraisals of the progress of the rural and urban health demonstrations, which

appeared in the *Quarterly Bulletins* of July and October, 1926, give pertinence to special observations which he has made concerning the public health outlook in each of the three localities included in the demonstrations program. Of more general interest, however, are comments made by Dr. Newsholme during these visits concerning what he believes are the outstanding present-day problems confronted in the field of public health in the United States. Such extracts as are here presented are from various of his reports and from the stenographic notes of speeches made during his visits to the three demonstration centers.

SIR Arthur Newsholme, M.D., for the past two years has been keenly interested in the progress of the New York Health Demonstrations. He made an initial survey of activities in the rural and urban health demonstrations in May, 1926. (Sir Arthur was formerly Principal Medical Officer of the Local Government Board of England and has served as Examiner in Medicine and Public Health at three of the leading universities in England. He is the author of "Evolution of Preventive Medicine" and of many scientific articles.

There are three kinds of public health work, said Sir Arthur upon one occasion. There is, *first*, the old-fashioned public health work, for a large part of which we are immensely indebted to the engineering profession: the getting of a pure water supply, of adequate sewage and drainage, and the protection of food supplies. The stage of building up the sanitary regulations generally defining such work has been gone through with. And these regulations need to be continued as much as ever.

Mich. J. J. J.
Syracuse. 1928
18-7-1928

THERE is, *second*, the kind of public health work which views it with utmost importance that the consequences of physical defects be forestalled by their prevention and eradication in infancy and in early childhood.

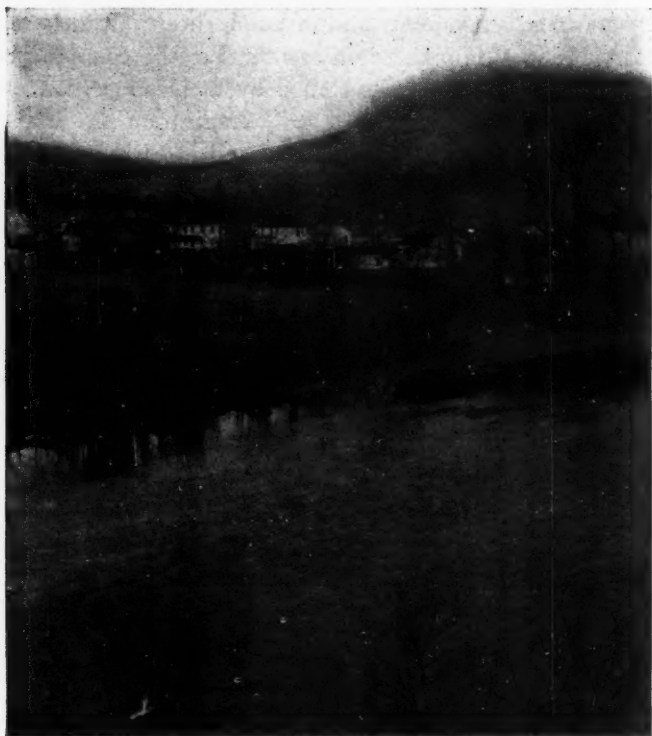
SIR Arthur's brief review of the public health services which have been developed in Cattaraugus County under the direction of the local official and voluntary health agencies is supplemented by a general summary of the outstanding results obtained from the first five years experience of the Cattaraugus County Health Demonstration, which appears on page 77 of this issue. (A similar summary of the work during the past five years in the furtherance of public health activities in Syracuse will be published in a later issue.

And, *lastly*, there is the form of public health work which recognizes it as a public duty that health protection and medical treatment be provided when persons needing such protection and treatment, or their families, are otherwise unable to secure it.

"The making safe of the milk and water supplies," he continued, "has helped to prepare

the way for a lessening consumption of alcohol, which from the point of view of health is a tremendous gain. Typhoid fever is becoming so rare that some medical teachers are almost deploring the fact that they cannot find cases to use in teaching their medical students. Typhoid seems destined to follow the path of typhus fever which practically disappeared from civilized communities three decades ago.

"The modern increase in the duration of life is something outstanding. Yet there is still a tremendous amount of public health work to be done. Only 35 per cent of the population lives to be sixty-five years old; 20 per cent die before the age of five; and 40 per cent die in the wage-earning period of life.



“THERE is a large amount of avoidable illness and mortality which will be greatly diminished and eventually prevented when local health authorities, voluntary agencies, and especially physicians in private medical practice, join forces and bring to bear the educational and still more the active preventive and curative measures which they can provide.

“Take, for example, the question of correction of physical defects among children, those of school age and those not yet old enough to go to school. Children who suffer from



dental defects, from adenoids and enlarged tonsils, from otorrhea, from defective eyesight, and other disabling conditions (actually or in prospect), will be handicapped for life unless such defects are remedied. A defect in early childhood may seemingly not be serious, but allowed to continue may mean total inefficiency in adult life, and possible curtailment in the duration of life. From the standpoint of public health, therefore, it is of the utmost importance

that such defects be remedied as early as possible.

"Of 300,000 school children examined recently in New York, 48 per cent had defective teeth; 18 per cent, diseased tonsils; and 15 per cent were breathing through their mouths. Over 12 per cent had defective eyesight. All those conditions mean inefficiency and, in very large measure, dependence on the community when adult life is reached. And all those conditions need attention. You may say, 'That is not public health. That is treatment of illness.' It *is* public health. Very little has been done in school hygiene in New York

City. Practically nothing has been done in the seeking out of minor defects, particularly among preschool children.

"Now these defects ought to be discovered and treated by the private doctors, but how many parents of school children have private doctors? Shall we say two-thirds? Then one-third have none. The welfare of these one-third should be looked after. Unless their adenoids are attended to, some of them will grow up deaf. We ought to secure necessary health protection and medical treatment for every child. Who is to do it? The most important thing is not who is going to do the work, but whether it is going to be done.

"**T**HE average family income per year in the United States is about \$1,350. Sixty-seven per cent of all families are stated to have an income of \$1,450 or less. Can these families afford in all cases to have a private doctor? If so, how much can they pay him when he performs a tonsil or adenoid operation? They ought to pay him something, of course. What happens in many cases is that the children are medically neglected. The results of the neglect appear in after years when they come up as applicants for public charity. The question is: Can the doctors do the work alone? If not, then why should they not join in partnership with the public health authorities?

"If health work were extended in the schools and into the preschool period, the amount of clinical work done both by private doctors and at various clinics would be increased; though later there would be a decrease in the amount of hospital work and in total expenditures for hospital purposes."

Sir Arthur called attention to the relatively small proportion of the New York City annual budget which is being spent for the work of the Health Department. "It serves to illustrate," he commented, "that work in public health is generally concentrated on the 'end products' which necessi-

tate taxation, whereas if greater attention were devoted to the initial evils, the beginnings of evil, the expenditure on a large share of those 'end products' would be very greatly reduced.

"There is nothing so extravagant as inadequate expenditure on public health work. At the present time in New York City and in other cities (I am not speaking especially of New York City nor of the United States; the same thing applies to some extent in England), the money is being spent largely on what I have heard well described as 'post mortem first aid,'—to deal with 'end products' instead of to prevent their development.

"Destitution is an 'end product' of neglected disease in 60 per cent of the cases. If the sickness had been prevented the destitution would not have followed," he concluded.

The foregoing considerations point to the need of the adoption on a large scale of the kind of public health work which concerns itself with the prevention of the consequences of existing defects.

"OUR chief enemies at present are heart disease, cancer, pneumonia, tuberculosis and syphilis," Sir Arthur continued. "If the full facts were known, as Dr. Osler said, syphilis would probably come first. Syphilis is the biggest killing disease in the community. It and tuberculosis are undoubtedly the greatest present contributors to the total mortality prior to the approach of old age. By the removal of tuberculosis and syphilis, most of the preventable deaths from the age of fifteen to sixty-five would be avoided.

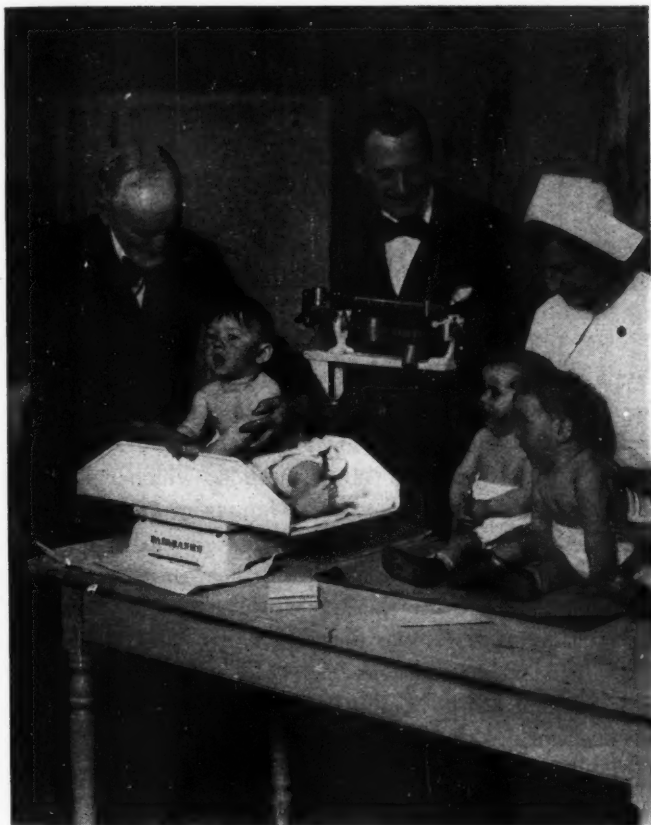
"More than 10 per cent of all commitments to the state hospitals for the insane are due to general paresis which is syphilitic in origin. This means that about 15 per cent of the cost of running these institutions (which runs way up into the millions each year) is traceable to syphilis alone.

All the beds occupied by these patients would be empty, were everything that could be done for the prevention and treatment of syphilis carried out.

"I was greatly struck by some figures which Surgeon-General Cumming published a few weeks ago, stating that in cities of over 25,000 population in this country, on an average of from 1 to 1.5 per cent of the total population are constantly ill with venereal disease. I see from the official figures that there were more cases of venereal disease reported in the United States in 1925, than of any other infectious disease, except measles. This is very deplorable. It would be more deplorable had not the Social Hygiene Association been doing extremely valuable work to educate the public on this matter."

It is generally recognized, Sir Arthur declared, that between those venereal disease sufferers who can pay their physicians for treatment and those who are treated in clinics, there remains throughout the country a large proportion of untreated cases, each a source for possible spread of the infection. This great body of untreated cases constitutes a gap in the modern public health outlook in the United States, for the filling of which adequate measures have not been supplied. "It is extremely important," he said, "that the organized medical profession should either by combination among themselves, by paid clinics or otherwise, and by help possibly from the public authorities, do away with this great gap."

"In England in 1916, the British Medical Association put into operation a new system for dealing with the problem of syphilis. Since then the death rate from syphilis (e.g., infantile syphilis, general paresis and aneurism) has steadily fallen. This result has been attended by the establishment of public clinics in every center of population throughout



Sir Arthur Newsholme (left), in making a survey of the metropolitan health demonstration, visited the baby health station maintained by the New York City Health Department every week-day morning in the Bellevue-Yorkville Health Building. He is here accompanied by the executive officer of the Bellevue-Yorkville Health Demonstration, Dr. Leverett D. Bristol.

England. Private physicians are paid for the services rendered in these clinics. The clinics are open to all patients wishing to come. The name of each patient is registered, as confidential, at his first visit. He is then given a number by

which he is thereafter identified. He is at liberty to go to any other clinic anywhere in England. The reason this system has been inaugurated is that great pox, like smallpox, is a deadly enemy to the community. The State suffers as well as the patient. The disease, if not properly treated, is passed on to innocent wives and children. The State therefore supplies free treatment at the clinics and free medication for use by physicians in their private practice. While some patients who can afford to pay go to the free clinics, many prefer to go to their private physicians.

"Now, if physicians can give assurance that every case of syphilis will be satisfactorily treated by them in private practice, well and good; but if only a minority of such cases are reached, is it fair, is it moral, is it humanitarian, is it Christian, to refrain from clinic methods which will reach the greater number? For the sake of humanity and the State, this problem must be dealt with adequately and humanely. If it cannot be dealt with by the medical profession, then it must be dealt with by the State.

"**A**ND then there is the form of public health activity which is concerned with the rehabilitation of individuals and of families that have gone down and under. That we call 'poor law work' in England, and at the present time we are engaged in welding poor law work into public health work—knowing the extreme importance of rehabilitating families. To take a simple illustration, a man with neglected varicose veins, who is deprived of any means of support other than his own labor, will become dependent on private charity or on public funds. To restore him to industrial efficiency is a very important part of the public health service of the future, though the expenditure need not in every case come out of official funds.

"I like to think of the parable of the Good Samaritan in

the terms of modern health work. It was all well and good, of course, to help the poor man who had been beaten and stripped of his goods by the thief. It is incumbent upon us to provide hospital and medical care for those who are sick. But should we not go back a step further and try to catch the thief? And should we not go back still another step and prevent the formation of thieving habits? In the domain of conduct, this is part of the task of religion and education. In the domain of health, it means we should catch illness early so as to prevent its development into greater seriousness, and going back a step further we should seek to prevent the beginnings of disease.

"Take, for example, the question of diphtheria immunization. My personal preference would be to have private physicians do the work if they can give assurance that all the children will be reached. In few communities is this problem being attacked hard enough. The question often seems to revolve about the matter of pay to the doctors. If the doctors cannot reach all the children, then they should be glad to have the public health authorities do the work. We are all partners and it is to our own interest, even financially, that there should be continuous cooperation between family doctors and the public health service.

"I say, then, that unless the practitioner can arrange and develop methods for the treatment of the poor, the public authorities must in part accept the responsibilities for handling the problem of syphilis, tuberculosis, defects among school children, and infant welfare.

"Is then the public health authority, itself or through other organizations, to be free to secure the treatment (a) of physical defects found in school children, preschool children and infants, and (b) of expectant mothers, in the same way and on similar lines to those to which no serious



"The ultimate aim and in some measure the immediately practicable objective of preventive medicine," Dr. Newsholme writes, "is to obviate the need for treatment by the application of the known laws of hygiene; and the period of life in which this is especially possible is in the ante-natal and post-natal period of an infant's life."

objection is now taken in the treatment of the acute infectious diseases and of tuberculosis? Taking a further special case of momentous importance and urgency, is the public health authority to be free to undertake directly, or otherwise

ensure, the diagnosis and treatment (c) of venereal diseases beyond the small extent to which this has hitherto been done?

"In all these instances the same points of principle emerge.

"Public health authorities have no desire to undertake the responsibilities of medical treatment. In fact, they may be said to desire to keep this, so far as is possible, in the hands of private medical practitioners. But two facts are notorious. At least a third of the population has no regular family doctor, and even if they had one, cannot pay (individually and in isolation) the fees necessary to secure the attendance which in the public interest is peremptorily needed. This applies increasingly as medical practice becomes more complete and complex, and the necessity for frequent cooperation of one doctor with another in a given case of illness is more and more realized. Public health authorities will fail in their duty to the community if they do not act on the principle that preventive medicine is not merely concerned with (a) the prevention of preventable diseases, but is also concerned with (b) the treatment of disease in its earlier stages, and through this the prevention of the more serious later consequences of neglect.

"Action on both these lines is being taken by public health authorities, especially for communicable diseases. In tuberculosis and venereal diseases the powerful influence of treatment in preventing further disease is too well known to need emphasizing. In tuberculosis, effective work is being done in a number of localities, but syphilis and gonorrhea have hitherto been grossly neglected.

"Nor there be any doubt that an adequate public health program must include the offer of diphtheria immunization to every child in the community. Similarly, the public is vitally concerned in the discovery of physical obstacles to

health and to education found in school and in preschool children.

“THIS duty of discovery of disease or defect does not, however, embrace the entire scope of the public health authority’s responsibility. Mere discovery is almost entirely futile unless followed by remedial action; and it will be the desire of the efficient public health authority to increase the scope of the private practitioner’s work and to employ such doctors as are willing to be thus engaged in treating on its behalf the patients who cannot in present circumstances be treated by a family doctor.”

Sir Arthur explained that he had stressed his personal views on the necessary relation between treatment and prevention in the public health work because he regarded this as the chief difficulty in securing an ideal result in such effort. “If only incomplete action in the desirable direction is being taken, it does not follow that much good is not being done; the good can only be partial,” he said. “The partial work is, however, worth while, and I would deprecate the idea that restriction to an incomplete program is a reason for non-continuance of the work already being done.”

He had outlined these general considerations, Sir Arthur stated, because, in his view, unless they are applied in the New York Health Demonstrations and in public health administration, the bright prospects of a great enhancement in the standard of health of the community will not be realized. It is essentially important, he added, that the public health authority and the private medical profession should cooperate to the fullest extent.

“That treatment and prevention must go hand in hand is an axiomatic truth, and on the realization and the fullest application of this truth depends, in large measure, the future of all public health work everywhere,” he declared.



SIR ARTHUR NEWSHOLME'S COMMENTS *on*
The NEW YORK HEALTH DEMONSTRATIONS

COMMENTING specifically on the New York Health Demonstrations, Sir Arthur Newsholme said that he had been even more impressed than on his first visit "with the soundness of their general plan." That the demonstrations are carrying on experimental work in an official setting of city and county administration, and thus are helping forward the inevitable, but too slow, trend toward intimate inter-relations and partial fusion of voluntary and official activities, he regarded as their unique feature. "Although the adoption of this method almost excludes the dramatic demonstration of the good done, it is sound in conception, and is showing its value in actual experience," he continued.

The Cattaraugus County Health Demonstration

If no other results had been achieved in Cattaraugus County, beyond the firm establishment there of New York State's first county unit for public health administration, the rural health demonstration would have more than proved

its value, he asserted. "There are, however, many other gains in details of administration, and the standard of work in nearly every department has been materially elevated."

He commented at length on the public health services which had been developed in the County. Since these are summarized in the accompanying article, only brief reference is made to them here—space being devoted rather to Sir Arthur's suggestions for improving the County's public health program.

"In tuberculosis, the practical elimination of bovine tuberculosis from cattle of the County is a great feat. Excellent work is being done in regard to human tuberculosis, though the fact that new open cases of phthisis are still being belatedly found shows that certain sections of the public still do not realize the importance of early diagnosis and treatment. An intensive investigation of 500 families for tuberculosis, by all known tests, has been recommended. This would furnish epidemiological knowledge of much value, while being of equal value to the families thus intensively studied. For difficult parturient cases and for sick children among the patients who cannot pay, there is still a serious lack of available hospital beds.

"The treatment of patients for venereal diseases is still on a comparatively small scale, and cannot be regarded as satisfactory, inasmuch as in these diseases prompt and adequate treatment is a chief public health measure. This problem will need further study as to possible means for extending the present work.

"The laboratory service of the Cattaraugus County Board of Health has increased in efficiency and usefulness, and the volume of work now done by its staff on behalf of every medical practitioner in the County demonstrates its high value to the community.

"Medical inspection of school children in the County has been followed in a considerable proportion of instances by curative action. In a number of cases where families could not afford prescribed treatment, voluntary funds have made it possible to compensate physicians for operations. By the use of funds supplied by the Public Health and Tuberculosis Association, a number of children crippled after poliomyelitis have also received appropriate treatment.

"There is real need for similar provision for infants and for preschool children and for scholars throughout the County on a much larger scale than has hitherto been practicable. The three conditions which most urgently call for this aid, both for school and preschool children, are (a) tonsillar disease and adenoids; (b) defects of eyesight; and (c) dental caries, although this is not an exhaustive list.

"In my view, arrangements for the treatment of these and allied conditions are urgently needed in those instances in which reference to the family doctor (with adequate follow-up arrangements) fails to secure treatment. In such cases it is advisable that each case should be investigated as to economic resources, and then arrangements made to treat the patient gratuitously or at a reduced charge. A scale of charges for each case could be arranged with doctors willing to undertake such cases, and in this way the cooperation of the doctors may be anticipated. The public may reasonably be expected to contribute on a larger scale than at present, the funds necessary for this amelioration of conditions lowering the average health of the community."

The Syracuse Health Demonstration

"THE first five years of the Syracuse Health Demonstration have necessarily been years of consolidation," said Sir Arthur Newsholme. "I recall a remark I made at the time

of my earlier visit, that much spade work would be needed in Syracuse before obvious quotable results were secured in its public health work—before the City could be pointed to as a model for other areas.

“In the years which have elapsed since the demonstration was inaugurated, and as a result of persistent steady work, scientifically directed, foundations have been well and soundly laid for the development in Syracuse of a public health program which pilgrims may well come from all parts of the world to observe.

“I have been greatly impressed by the advance made in Syracuse in the generalized nursing system which has superseded the old system where certain nurses did tuberculosis work and other nurses did other specialized types of nursing.

“To a considerable extent I associate the progress which has been made in tuberculosis work in Syracuse with the splendid institutional provisions which have been made there. In the usage of hospital beds for tuberculous patients, the American Public Health Association appraisal form has been greatly exceeded. The tuberculosis work being done there is perhaps the best I have known in any area in America. Workers in other areas may be referred to this City, as well as to Cattaraugus County, as places in which there has been secured a high and progressive standard of preventive work, including the curative work so necessary to prevention.

“Much valuable action has already been taken in Syracuse to knit social case work into the tuberculosis organization. It is essential that such service (given strictly on lines conducive to prevention) should be increasingly extended if the insemination of successive crops of tuberculosis to be reaped in coming years is to be diminished still more rapidly. This principle does not apply only to tuberculosis. It runs right



"Destitution is an 'end product' of neglected disease in 60 per cent of the cases. If sickness had been prevented, the destitution would not have followed. This points to the need of public health work which concerns itself with the prevention of the consequences of existing defects."

through preventive medicine in its relation to poverty."

Sir Arthur Newsholme said that he thought that "an increase in social case work would help the doctors to avoid treating patients free who do not need to be treated free. In Los Angeles County (California), where the health administration is admirable, they are building ten health centers. Two of them are already built. These centers are being used by doctors in the district for their poor patients. Social investigations are made as to whether or not a given patient should be treated free. If he cannot afford to pay, he is given excellent treatment in these health centers, sometimes by the very doctors who have referred him, and if he needs a hospital bed, it is provided. Close relationships are maintained between the health centers and the local relief and after-care agencies. Men with hernias, with impaired teeth and many other defects, who are unable to work on account

of their defects, are being put back on to their feet, economically, through the necessary surgical treatment. The doctors are thus relieved of the burden of looking after these patients personally.

"Probably at least 60 per cent of the destitution which shackles the community is due to sickness; and at Syracuse, as elsewhere, there is needed a much closer linking up of poor-law administration with public health administration. The ideal, stated in its lowest terms, is that no monetary relief shall be given out of the public pocket until there has been a medical, as well as a social, diagnosis of the applicant—until it has been determined whether the proposed monetary expenditure cannot in part, at least, be better spent in the treatment and cure of illness and the removal of conditions following its continuance, rather than be a mere non-remedial weekly dole. Active steps have already been taken locally on the initiation of Syracuse health organization to advance in the direction of this ideal."

Sir Arthur commended the good work being done in Syracuse in prenatal and infantile welfare work and among pre-school children. He attached special importance to the beginning made in preschool work for children. Although it is at present only in its earliest stages, he believes that "when developed, it will go far toward diminishing the terrible toll of damaging and disabling physical and mental defects found by the school medical service."

The Bellevue-Yorkville Health Demonstration

"THE experiment which is going on in the Bellevue-Yorkville district," continued Dr. Newsholme, "is one of great public interest. It is an experiment in which not only is intensive educational work being carried out, but also in which methods are being devised and tried out, which

I believe will be extended from that demonstration to other parts of the City, though perhaps not on an equally elaborate scale.

"There is need for great extension of this method of devolution, of decentralization, for by that means it will be possible to get the spirit of local civic patriotism introduced. And in such local experiments as the one in Bellevue-Yorkville, it is practical to re-introduce the neighborhood spirit which is lacking in our big cities.

"We often hear of the good old times. I do not believe in the good old times. I believe in the good times now and in those coming along hereafter. But in one respect the times past were better than now. There was more of this social intercourse and helpfulness between neighboring families. It should be our effort to reconstruct that. And I know of nothing better than having public health centers throughout the City, around which every public health work of that quarter will be focused.

"One important part of such neighborhood growth of feeling would be that generalized nursing would be introduced. Although there is a great deal to be said in favor of special nurses for tuberculosis, and special public health nurses for other departments of public health work, much more can be said for one nurse who understands the hygienic advice needed to be given in public health work, in all its relationships, and who will make herself the friend of the mothers and children of a neighborhood.

"In New York City a condition exists which is potentially more favorable to future good administration than present conditions in London. Formerly, London had more than twenty-eight boroughs, each autonomous, completely severed. Then it was felt that there was a need of overlordship, and the County Council was instituted, which in cer-

tain respects governs public health matters for the whole of London. Certain public health matters are left to the boroughs with the consequence that all the time, there has been difficulty in deciding which should be centrally administered and which should be locally administered. Although notwithstanding points of friction and difficulty and local jealousies, the standard of administration is fairly good, but the best distribution of sanitary functions is not yet attained."

Dr. Newsholme pointed out that there is, on the other hand, one government for the whole of New York City's six or seven millions of population—a completely centralized and unified administration for the City's five boroughs. But, in New York City in the field of public health the need is for decentralization.

"Each of the City's five boroughs," he stated, "ought to have an assistant health commissioner closely related to the Commissioner of Health; and each of these five boroughs ought to have represented in it every one of the special departments of public health work which is embraced at headquarters, so that the five boroughs would be autonomous in detail, but subject in strategy and methods of administration to the central administration. It is only by decentralization that the Health Commissioner and his colleagues can be saved from an intolerable burden of detail which makes it impossible for them to study adequately the great problems with which they have to deal."

Sir Arthur Newsholme said he thought it very important that voluntary health work should be closely related to the City's public health program. Such relationship, he continued, is "being cultivated in the Bellevue-Yorkville Health Center, where under the same roof there are not only clinics of the Health Department for tuberculosis, for venereal diseases, and for infants, but offices for leading health and social

agencies in the district. It is of the best possible augury that these agencies can exchange notes with each other and with the official public health agency with which their work should be dovetailed. There can be no doubt at all that the best setting for all voluntary work is a municipal setting."

Conclusion

IN conclusion, Sir Arthur said that the "full value of the good already secured in the New York Health Demonstrations will not be evident until the work securing this good is continued for a longer period; and much of its value would be lost by precipitate curtailment of the work. For much of the good achieved, one must think of the beneficent influence of the local work on other communities which will never be measurable by statistical data. For this reason, as well as for other obvious reasons, I trust that the work of experimenting begun in the demonstrations—to ascertain the best methods of various branches of public health work, and to prove the value of improved work—will be continued. There is no standing still in public health, and if one is not going on, one is certain to be going back."





***C**ONCENTRATION upon the care of the mother and her child requires the giving of alert attention to nearly the whole gamut of public health measures.*

—SIR ARTHUR NEWSHOLME, M.D., K.C.B.



FIVE YEARS *of* HEALTH DEMONSTRATION *in* CATTARAUGUS COUNTY—*A SUMMARY*

THE Cattaraugus County Health Demonstration was inaugurated on January 1, 1923. Shortly thereafter the Cattaraugus County Board of Health was officially appointed, the service of a full-time county health officer secured, and New York State's pioneer county health organization thus established. In financing the first five years development of the County's public health program, the State of New York, the County itself, local voluntary agencies, and the Milbank Memorial Fund have participated—the State and local bodies contributing on an increasing scale and the Fund on a diminishing scale, since the complete organization was set up. There is presented here a summary of the health services which have been established in Cattaraugus County and of improvements in health conditions which have taken place there during the last half-decade.

1. A *tuberculosis service*, in charge of a qualified diagnos-

tician, cooperating with local doctors, aided by trained nurses under the supervision of a special tuberculosis supervisor, has been carried on since early in 1923. In the course of the past five years 7,171 persons have been examined as a result of this newly established service. Of these, 847 were found to have tuberculosis in various stages of the disease, and a very large proportion of them have been brought under medical and nursing supervision either in sanatoria or in their homes. At the beginning of the demonstration in 1923, there were only 135 of these cases of tuberculosis known in the County; and those that were known were under the supervision of two nurses for the entire County including the City of Olean. There are now nineteen nurses available for this and for other services. The cooperation of the private physicians of the County has gradually become the largest factor in the finding of new cases. Cases referred by physicians to the clinics increased from 14 per cent in 1923 to 39 per cent in 1927. While for twenty-two years prior to the demonstration (1900-1922), tuberculosis mortality in the United States registration area and in New York State was showing a marked decline, the death rates for this disease in Cattaraugus County showed practically no downward trend. For one year, in 1915, the rate dropped to 50.1 deaths per 100,000 population, but that was an isolated event. The average tuberculosis death rate in the County for the period 1900-1922 was 71.7 per 100,000 population. In 1923 it was 68.1; in 1924 it was 63.6; in 1925 it fell to 45.3; and in 1926 it was 43.7.* In 1927, it dropped to 42.1 per 100,000 population. These three successive low rates of 1925, 1926 and 1927 constitute an event which has not before been paralleled at any time since the recording of

*All of the rates given here have been corrected to exclude Indians on the Reservation and non-residents at the J. N. Adam Memorial Hospital, which is a Buffalo institution maintained for patients residing outside of Cattaraugus County.

deaths from tuberculosis was inaugurated in Cattaraugus County.

2. In 1923 the Board of Supervisors made a special appropriation to be used for the *elimination of bovine tuberculosis* from the many herds in this dairy County, with the understanding that the Milbank Memorial Fund through the County Board of Health would assist in the work. Accordingly upon advice of its Technical Board, the Milbank Fund appointed a Bovine Tuberculosis Advisory Committee, consisting of Dr. Theobald Smith, the director of the Department of Animal Pathology of the Rockefeller Institute, chairman; Dr. William H. Park, director of the Bureau of Laboratories of the New York City Department of Health; and Dr. Veranus A. Moore, dean of the Veterinary School of Cornell University. This committee assisted in formulating comprehensive plans and in securing increased cooperation and participation by the state and federal authorities, to rid the herds of Cattaraugus County of tuberculosis. During the past five years the percentage of cattle reacting to the tuberculin test has been reduced from 10 per cent to 0.8 of 1 per cent. The deaths from non-pulmonary tuberculosis have averaged one-third of what they were during the preceding nine years. Dr. Moore estimates that the value of cattle in Cattaraugus County has increased by approximately \$1,000,000 as a result of the tuberculin testing and eradicating of bovine tuberculosis.

3. A *bureau of communicable diseases* was established and a municipal *diagnostic laboratory* was enlarged to serve the entire County—to seek out typhoid carriers, to control outbreaks of smallpox, to immunize children against diphtheria, and to aid the physicians and local health officers in prompt and accurate diagnoses and in the control of communicable diseases generally. We are informed that this service is

used by every practicing physician in the County. Among many other results, attained with the cooperation of the physicians, should be mentioned the placing under supervision of typhoid carriers in order to prevent further spread of this always serious and often fatal disease; and the immunization from diphtheria of 4,467 school children, representing 53 per cent of all the children in the rural schools of the County under ten years of age.

4. The Board of Health established a *maternity, infancy and child health service* under the direction of a trained specialist who is cooperating with similar state and federal health services in attempting to utilize in Cattaraugus County methods employed by health departments of worldwide reputation to reduce maternal and infant mortality and to safeguard the health of the preschool child. The effectiveness of this service depends largely upon the cooperation of the local doctors which in the main has been cordial. The infant mortality rate in Cattaraugus County has for the last four years averaged 66.2 (per 1,000 live births), which is a decrease of 23 per cent from the average of 85.7 (per 1,000 live births) for the four previous years.

5. The Cattaraugus County Board of Health has a *social hygiene service* which has discovered and brought under care and supervision many unrecognized sources of venereal disease infection, and which is working not only to cure these diseases but to prevent their spread. These results have been achieved with the cooperation of the local doctors.

6. The Health Board has developed *mental hygiene* clinics and tests and through social workers and field nurses discovered nests of degeneracy due to feeble-mindedness. Such cases have been brought to the attention of the County Court; prosecutions for numerous offenses, including incest, have resulted; and many cases of feeble-mindedness have

been sent to appropriate state institutions. The courts and voluntary agencies have cordially cooperated in this work.

7. The Board has a *generalized nursing service*, consisting of nineteen nurses, headed by a trained and efficient director, aided by four nurses who are specialists respectively in tuberculosis, maternity and child hygiene, school hygiene and venereal diseases. This service has been chosen as a field training center for graduate students of nursing in Teachers College, Columbia University. The nurses have aided the County Association staff, the teachers, the State orthopedic nurses, surgeons and others, in studying the needs of some 200 crippled children in the County, many of whom have as a result been restored to normal condition. During the past five years these messengers of mercy have made 98,806 calls, travelling in their Ford cars 550,000 miles to aid the local doctors generally in caring for the sick. Under the direction of the physicians they have provided nursing supervision for patients with tuberculosis and other communicable diseases treated in the home. They have assisted in maternity cases, provided nursing service in the clinics for discovering and treating venereal diseases and in the schools for the examination of school children. They have been an active factor in securing the correction of defects found in the medical examinations of school children and in the campaign of health education.

8. There is also a county supervisory *school health service* operating under the educational law of the State, working in close cooperation with the County Board of Health. In 1923 under the general supervision of this service, the school physicians examined 7,758 rural school children in the County and discovered 15,038 physical defects. By the end of June, 1926, one-half of these defects had been corrected. This work was done largely by the physicians of the County,

the nurses having followed up the parents of the children and urged that it be done. The county supervisory school health service is responsible, in the rural schools, for the promotion of the teaching of health, for measures leading to the early detection of communicable diseases, for instruction in nutrition, and for the sanitation of school buildings and premises. The local doctors in the County have cooperated actively in this service since its beginning.

The Milbank Memorial Fund initially entered into cooperation with the public authorities of Cattaraugus County to develop during a five-year period a scheme of public health service based upon the knowledge and experience of the leading authorities of the country and designed to prevent needless sickness and premature death among the people of the County. At the request of the County Board of Health and some forty other local bodies, official and voluntary, the Fund is continuing its participation in the health demonstration during the current year.



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